

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Appl. No. : 10/025,515 Confirmation No. 6307
Applicants : William E. Webler, et al.
Filed : December 18, 2001
Title : ROTATABLE FERRULES AND INTERFACES FOR USE WITH AN
OPTICAL GUIDEWIRE
Art Unit : 3739
Examiner : John P. Leubecker

Docket No.: : ACSG 60271 (G2168US01)
Customer No. : 24201 August 20, 2007

REPLY TO EXAMINER'S ANSWER

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

This Reply Brief is being filed in response to the Examiner's Answer dated June 22, 2007 and the later-filed Examiner's Answer dated August 10, 2007. Please charge any fee due in connection with the filing of this paper to our Deposit Account No. 06-2425. A Request For Oral Hearing is being submitted herewith.

I. STATUS OF CLAIMS

The status of the claims in this application are:

A. Total Number of Claims in the Application

The claims in the application are: Claims 1-9, 17-19 and 31-35.

B. Status of All of the Claims

Each of pending claims 1-5, 8, 9, 17, 19 and 31-34 stand as finally rejected under 35 U.S.C. § 102(b). Claim 18 has been withdrawn from consideration. Claim 35 is allowed and claims 6 and 7 were objected to as being dependent upon a rejected base claim but were deemed allowable if rewritten in independent form.

C. Claims on Appeals

The claims on appeal are each of pending claims 1-5, 8, 9, 17, 19 and 31-34.

II. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 1-5, 8, 9, 17, 19 and 31-34 were improperly rejected under 35 U.S.C. § 102(b) as being anticipated by Forkner et al. (4,750,476); and whether claims 1-5, 8, 9, 17, 19 and 31-34 were improperly rejected under § 102(b) as being anticipated by Hamlin et al. (Re. 36,434).

III. ARGUMENT

A. Claims 1-5, 8, 9, 17, 19 and 31-34: § 102(b) as anticipated by Forkner et al.

In the Examiner's Answer dated June 22, 2007, the Examiner maintained the rejection of claims 1-5, 8, 9, 17, 19 and 31-34 under § 102(b) in view of Forkner et al.

In maintaining the rejection of the claims, the Examiner states the following in the Examiner's Answer:

"Appellant argues that it is beyond the teachings of Forkner et al. to characterize nut (19) and cannula (23) as being part of the light transmitting fiber (41). The Examiner agrees. It appears that Appellant misinterpreted the Examiner's statement ('Furthermore, concerning elements (19) and (23) as the elongated shaft and tube (17) as part of the optic fiber...'). The Examiner's only reading tube (17) as part of the optical fiber. Nut (19) and cannula (23) read on 'an elongated shaft' of the claims. Given that tube (17) confines and bounds the optical fiber (41) and appears to be an integral part of the image transmitting means of Forkner et al. (note FIG. 2, col. 2, lines 61-68), the Examiner takes the position that it is reasonable to consider the tube (17) as being part of the claimed 'optical fiber'. *Importantly, it is noted that this interpretation is consistent with Appellant's specification (Note paragraphs [00094] and [00096]) which suggests that materials that join or bundle the optical fibers or even just clads or wraps an optical fiber or fibers for strength, would be considered an integral part of such 'optical fiber'.*" (Ex. Ans., page 7, lines 8-20)

The Examiner further states that nut (19) "has a portion with a constant outer diameter" (Ex. Ans., page 7, line 22) and that "The ferrule (21) of Forkner et al. also has a proximal portion with outer surface with a constant diameter" (Ex. Ans., page 8, line 1-2) and that "the diameters are substantially the same." (Ex. Ans., page 8, line 4)

Specifically with respect to claim 17, the Examiner further stated that the Appellant has provided no explanation as to why the Forkner et al. reference does not teach a ferrule "having a first position where it is secured to the elongated shaft and a second position where it is released from the elongated shaft" (Ex. Ans., page 8, lines 7-9) or "a ferrule configured to engage a rotatable mechanical connector such that the ferrule rotates when engaged to the mechanical connector." (Ex. Ans., page 8, lines 14-16)

It is again respectfully submitted, however, that the Forkner et al. patent does not teach each and every limitation recited in independent claims 1 and 17 or their respective dependent claims. First of all, it is respectfully submitted that the Examiner has erred in concluding that nut (19) and cannula (23) of Forkner et al. define an elongated shaft. Clearly, nut (19) and irrigation cannula (23) are not identified in the Forkner et al. patent as constituting a portion of an elongated shaft. Moreover, since nut (19) and irrigation cannula (23) are described as separate items, it is respectfully submitted that it is illogical to conclude that these distinct structures define structure corresponding to the elongated shaft as is recited in the pending claims.

It is additionally respectfully submitted that connector (21) of Forkner et al. does not define structure corresponding to the ferrule recited in each of independent claims 1 and 17, as well as in their respective dependent claims. Notably, the Forkner et al. connector (21) does not function as a conventional ferrule in that it is not described as providing reinforcement or to prevent splitting. Additionally, the tube (17) disclosed in the Forkner et al. patent does not form part of the Forkner et al. light-transmitting fibers (41) as tube (17) and light-transmitting fibers (41) are described in Forkner et al. as comprising separate structure. In fact, the Forkner et al. patent teaches at col. 3, line 28 et seq. that the "light-transmitting fibers (41) cushion the rod sections 29 and 31 against bending loads from the tube (17)" and as such, clearly identifies these elements as distinct structures having separate functions. In that regard, it is respectfully submitted that the Forkner et al. patent itself defines the tube (17) as structure which would **not** fit within the definition of optical fibers the Examiner has extracted from paragraphs [0094] and [0096] of the present application.

Therefore, it is respectfully submitted that Forkner et al. does not teach an elongated intercorporeal optical instrument including a ferrule directly connected to an optical fiber as is

required by each of the rejected claims. First, Forkner et al. does not teach a device including a ferrule. Secondly, even assuming *arguendo* that connector (21) could be construed as a ferrule, it is not **directly connected** to the Forkner et al. light transmitting fibers (41), as is recited in the claims.

Moreover, it is respectfully submitted that the Forkner et al. patent does not teach a ferrule having a proximal portion with a substantially constant outer diameter being substantially the same as an outer diameter of an elongated shaft proximal portion. Again, even assuming *arguendo* that the Forkner et al. connector (21) could conceivably be considered to be a ferrule, the proximal portion of connector (21) used with the Forkner et al. device does not have an outer diameter which is **substantially the same** as the elongated shaft, here once again assuming *arguendo* that nut (19) could be considered to be a proximal portion of an elongated shaft. It is in fact a mid-section of connector (21) which in the drawings of Forkner et al. appears to have a dimension which approximates the dimension of nut (19) of Forkner et al. It is additionally to be recognized from the drawings and disclosure of Forkner et al. that these dimensions of connector (21) and nut (19) do not clearly define a diameter as such structures are shown in cross-section.

Turning now specifically to independent claim 17, it is respectfully submitted that since connector (21) of Forkner et al. cannot be considered to be the recited ferrule and since nut (19) cannot be considered to correspond to the recited elongated shaft, for the reasons set forth above, the Forkner et al. patent simply fails to disclose or teach, as is recited in independent claim 17, a ferrule "having a first position where it is secured to the elongated shaft and a second position where it is released from the shaft" or for that matter "a ferrule configured to engage a rotatable mechanical connector such that the ferrule rotates when engaged to the mechanical connector."

Accordingly, for each of the foregoing reasons, it is respectfully submitted that each of independent claims 1 and 17 as well as their respective dependent claims recite subject matter which is not anticipated by the Forkner et al. patent. Thus, it is respectfully submitted that each of pending claims 1-5, 8, 9, 17, 19 and 31-34 were incorrectly rejected under § 102(b) in view of Forkner et al.

B. Claims 1-5, 8, 9, 17, 19 and 31-34: § 102(b) as anticipated by Hamlin et al.

In the Examiner's Answer, the rejection of claims 1-5, 8, 9, 17, 19 and 31-34 under § 102(b) as being anticipated by Hamlin et al. was maintained by the Examiner.

In response to the Appellant's Brief, the Examiner states the following:

"Appellant argues that Hamlin et al. does not teach a ferrule directly connected to an optical fiber. As can be seen in Figure 3 (shown below) of Hamlin et al., both optical fiber (26) and optical system (14) (which, as noted by the rejection, can be an optical fiber) extend into and at least partially through the ferrule. Is the Examiner to assume that Appellant is suggesting that the optical fiber (26), which extends the entire length of the ferrule (10), or optical fiber (14) (as noted in the rejection), which appears to be held in alignment with lens (52) inside the ferrule, is magically floating through such ferrule so as to have no direct connection with it? The Examiner finds that hard to believe." (Ex. Ans., page 9, line 15 – page 10, line 1)

Additionally, after identifying support member (10) of Hamlin et al. as a ferrule and removable sheath (18) of Hamlin et al. as an elongated shaft, in response to the Appellant's Brief, the Examiner states that "the two diameters...appear to be identical and are clearly 'substantially the same'." (Ex. Ans., page 10, lines 10-11) Moreover, in response to the Appellant's Brief, the Examiner stated that the Appellant gave no explanation as to why Hamlin does not teach "a ferrule having a first position where it is secured to the elongated shaft and a second position where it is released from the shaft." (Ex. Ans., page 10, lines 13-15)

It is respectfully submitted, however, that Hamlin et al. does not teach each and every limitation recited in independent claims 1 and 17 or their respective dependent claims. First of

all, it is respectfully submitted that the support member (10) of Hamlin et al. does not constitute a ferrule as recited in each of the pending claims. For at least this reason alone, it is respectfully submitted that each of the pending claims are allowable over the cited Hamlin et al. patent.

Additionally, it is respectfully submitted that Hamlin et al. fails to disclose or teach a ferrule directly connected to an optical fiber. In this regard, it is respectfully submitted that there is a distinction between the recitation in each of the pending claims of a "ferrule directly connected to said optical fiber" and to structures which may at some point make some contact. Accordingly, even assuming *arguendo* that central support member (10) of Hamlin et al. could indeed be considered to constitute a ferrule, it is respectfully submitted that the support member (10) is not **directly connected** to fiber optical bundle (26) shown in the Hamlin et al. patent.

Furthermore, it is respectfully submitted that Hamlin et al. clearly does not teach a ferrule having a proximal portion with a substantially constant outer diameter which is substantially the same as an outer diameter of an elongated shaft proximal portion. Even to the extent that proximal end portion (56) of the Hamlin et al. sheath (18) could be considered to be an elongated shaft proximal portion, the proximal end portion (56) of the sheath (18) simply does not define structure having a constant outer diameter. Also, as clearly shown in FIGS. 1 and 2 of the Hamlin et al. patent, which depict side and bottom views of the Hamlin et al. device, the central support member (10) also does not define structure having a proximal portion with a substantially constant outer diameter, as recited in the claims. In this regard, it is to be understood that a diameter is any straight line segment that passes through a center of the circle. Therefore, the Hamlin et al. patent also fails to disclose or teach an outer diameter of a ferrule being substantially the same as an outer diameter of an elongated shaft to the proximal portion.

Finally, specifically with respect to independent claim 17 and its dependent claims, it is respectfully submitted that since Hamlin et al. does not disclose or teach the ferrule recited in claim 17, it cannot possibly disclose or teach "a ferrule having a first position where it is secured to the elongated shaft and the second position where it is released from the shaft." Moreover, the Hamlin et al. patent fails to disclose or remotely teach a ferrule which "rotates when engaged to said mechanical connector while said mechanical connector rotates," as is recited in the claims.

Accordingly, it is respectfully submitted that each of independent claims 1 and 17 as well as their respective dependent claims are not anticipated by the cited Hamlin et al. reference. Thus, it is respectfully submitted that each of claims 1-5, 8, 9, 17, 19 and 31-34 were rejected in error.

CONCLUSION

For all the reasons stated above, Applicant respectfully submits that the Examiner has erred in rejecting claims 1-5, 8, 9, 17, 19 and 31-34. It is respectfully requested that the Board reverse the rejection of the claims and pass claims 1-9, 17-19 and 31-35 to issue.

Respectfully submitted,

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